

Overview of Risk Assessment Approach at Libby

OU4 Technical Subgroup Meeting
September 26, 2007
Libby, Montana

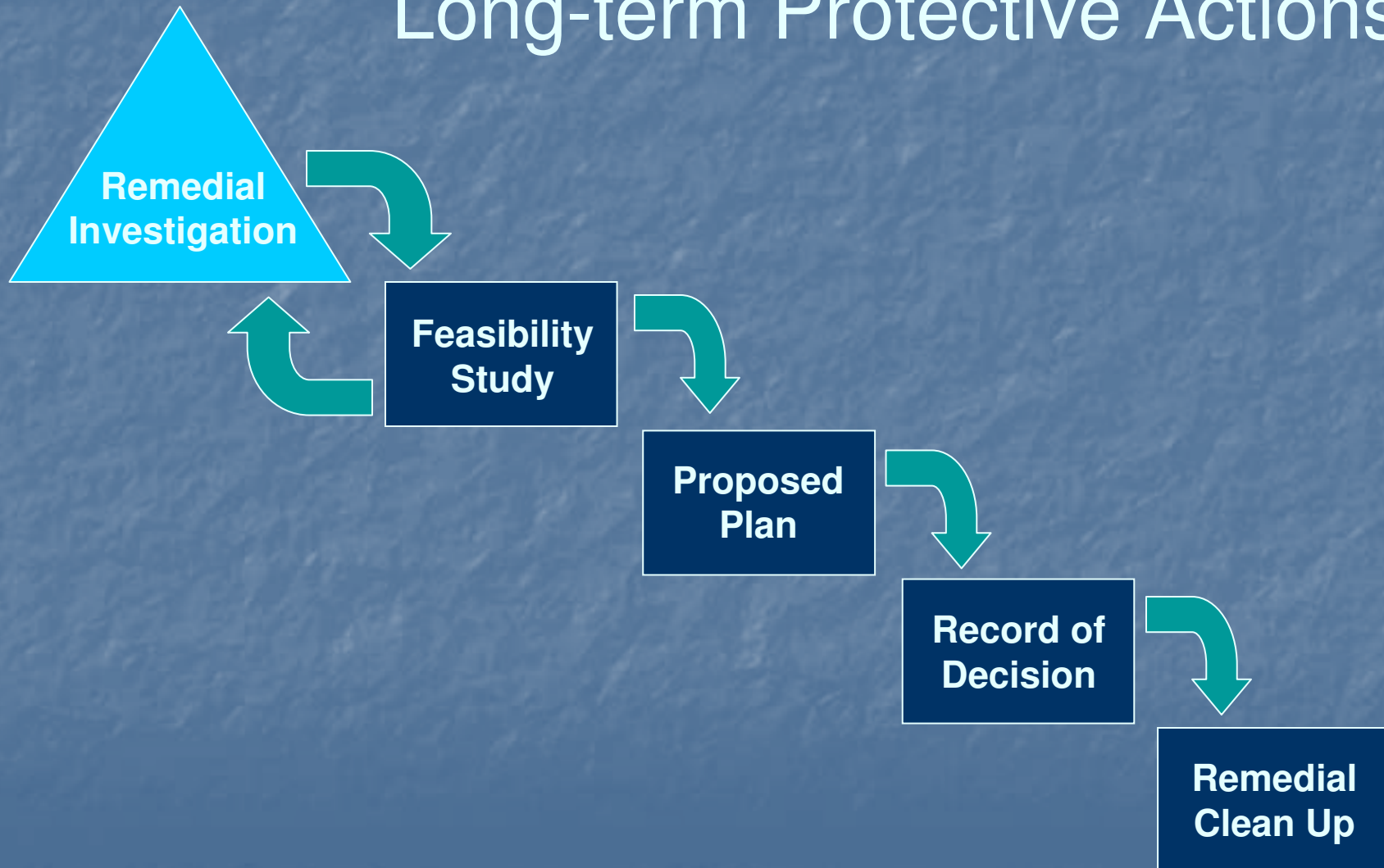
Wendy O'Brien, DVM, PhD
EPA Region 8
Denver, Colorado



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The Superfund Remedial Process

Long-term Protective Actions

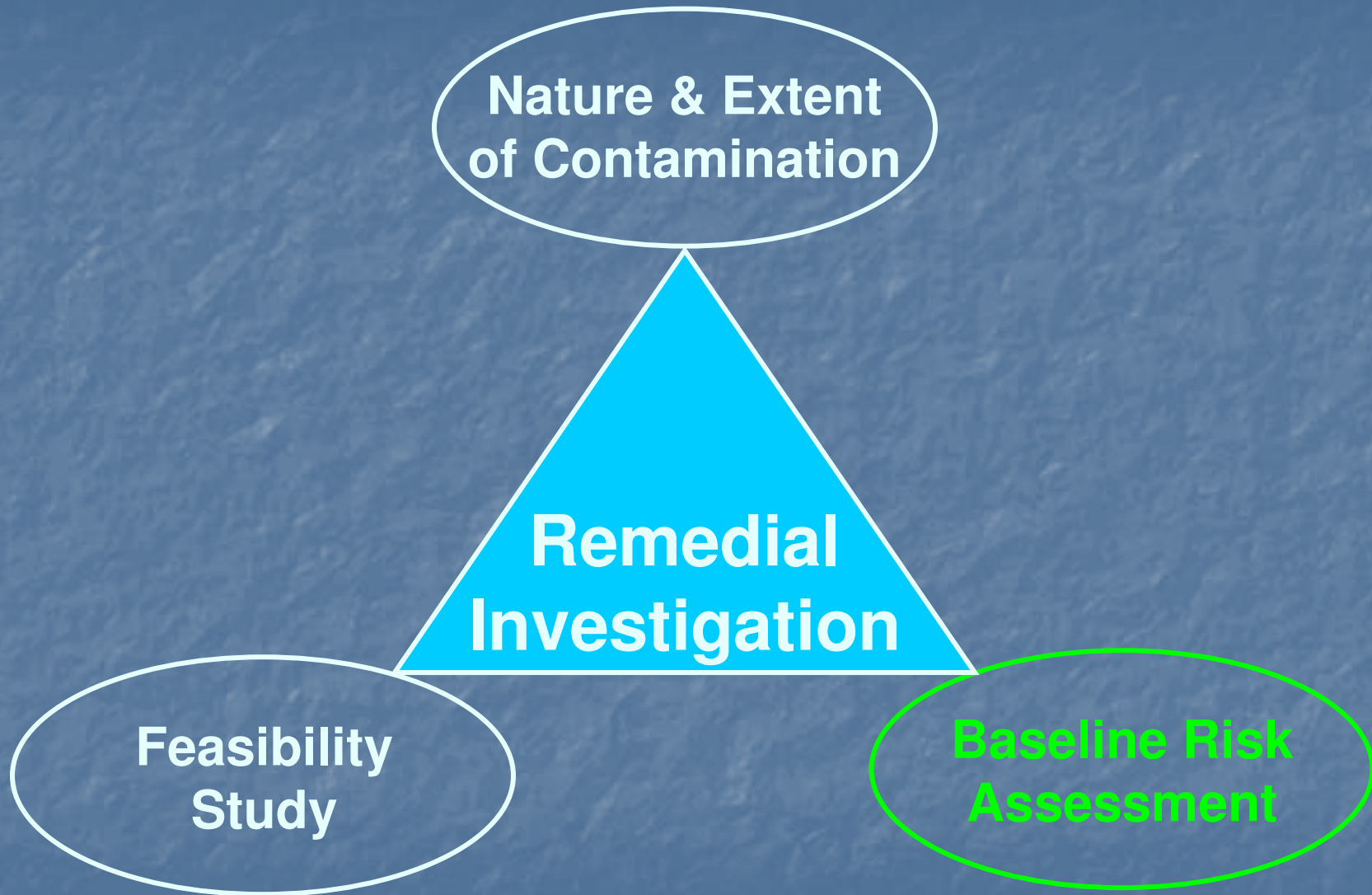


**Nature & Extent
of Contamination**

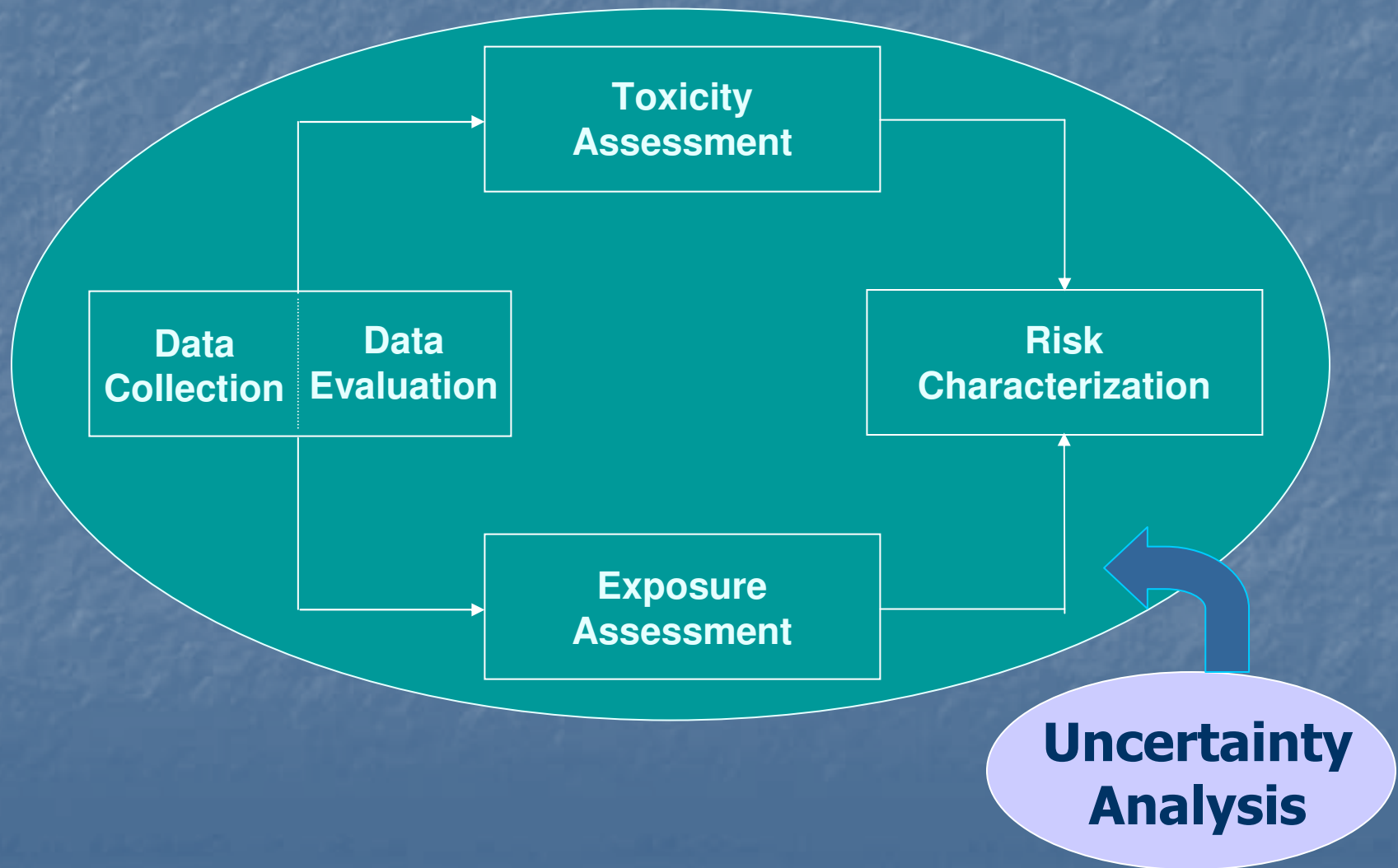
**Remedial
Investigation**

**Feasibility
Study**

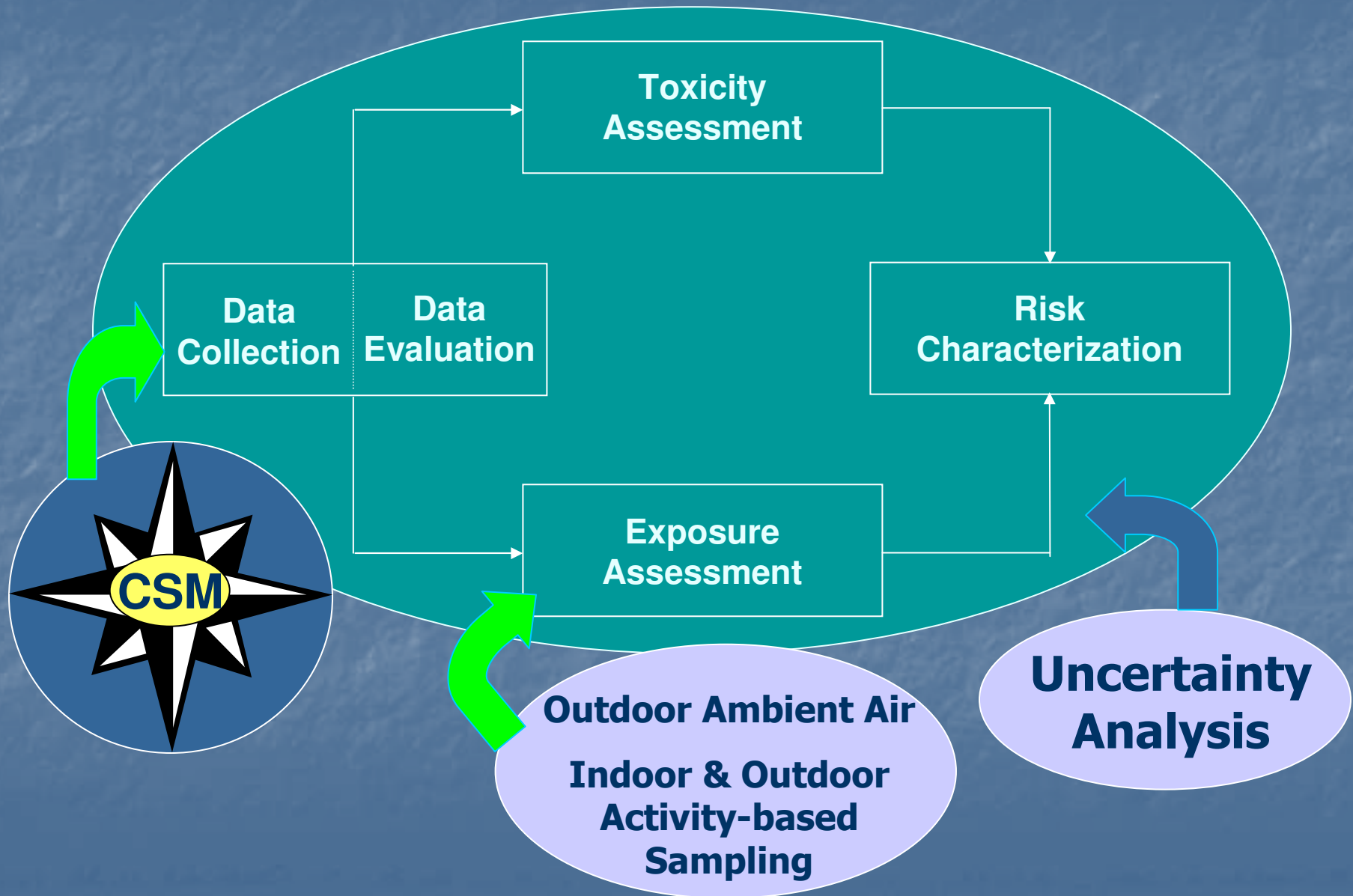
**Baseline Risk
Assessment**



Baseline Risk Assessment



Baseline Risk Assessment



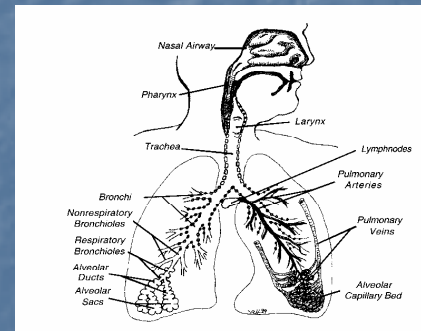
Toxicity Assessment Data Gaps

Target Tissues and Dosimetry

- External exposure \neq internal dose in lungs
 - Deposition, splitting, dissolution, translocation



\neq



- What about non-respiratory system effects?
 - Autoimmune diseases
 - Chronic inflammation
 - Developmental and reproductive effects

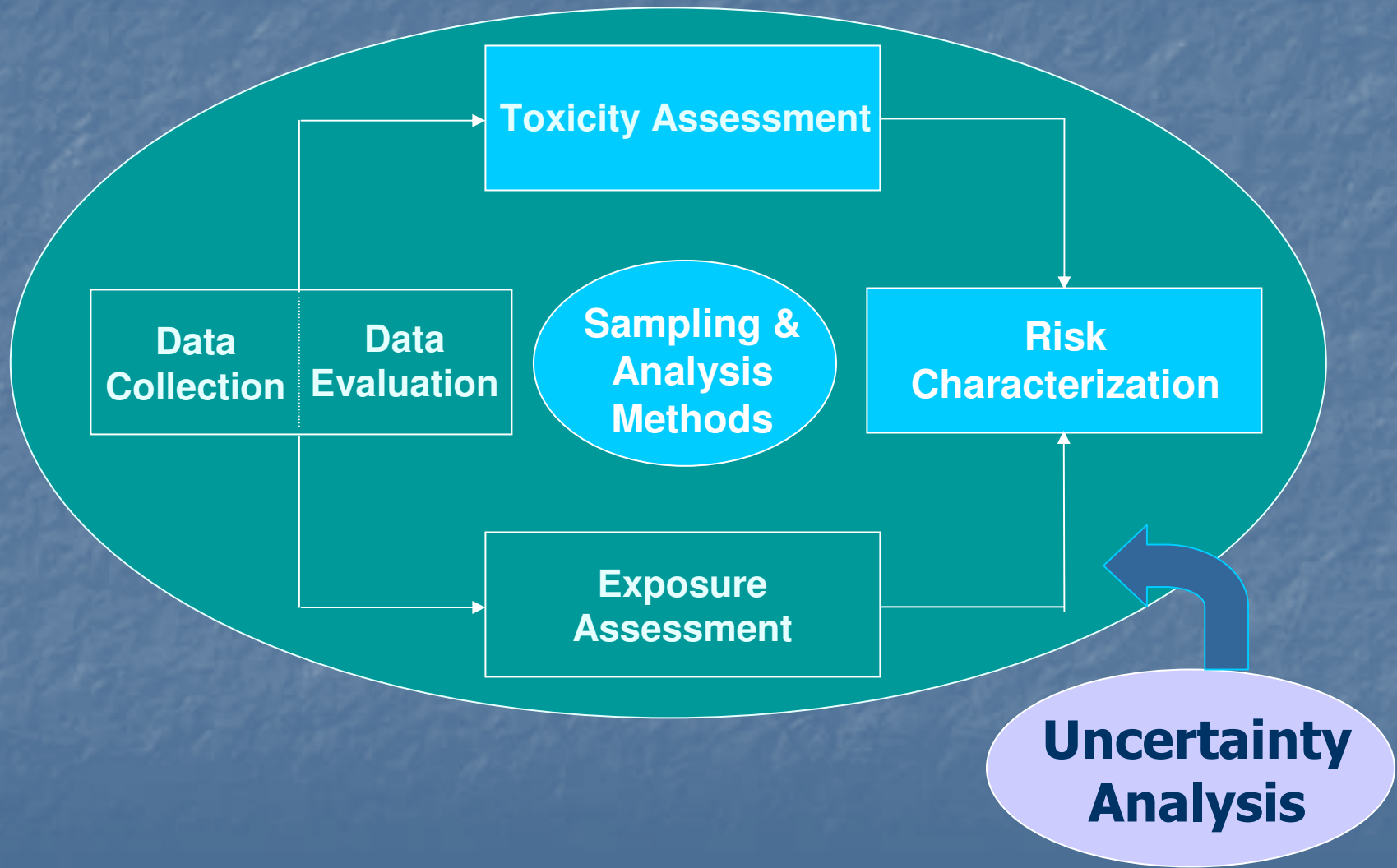
Lung illustration courtesy of Dr. Jack R. Harkema, Professor of Comparative Pathology, Michigan State University.

Toxicity Assessment Data Gaps

IRIS Cancer Slope Factor

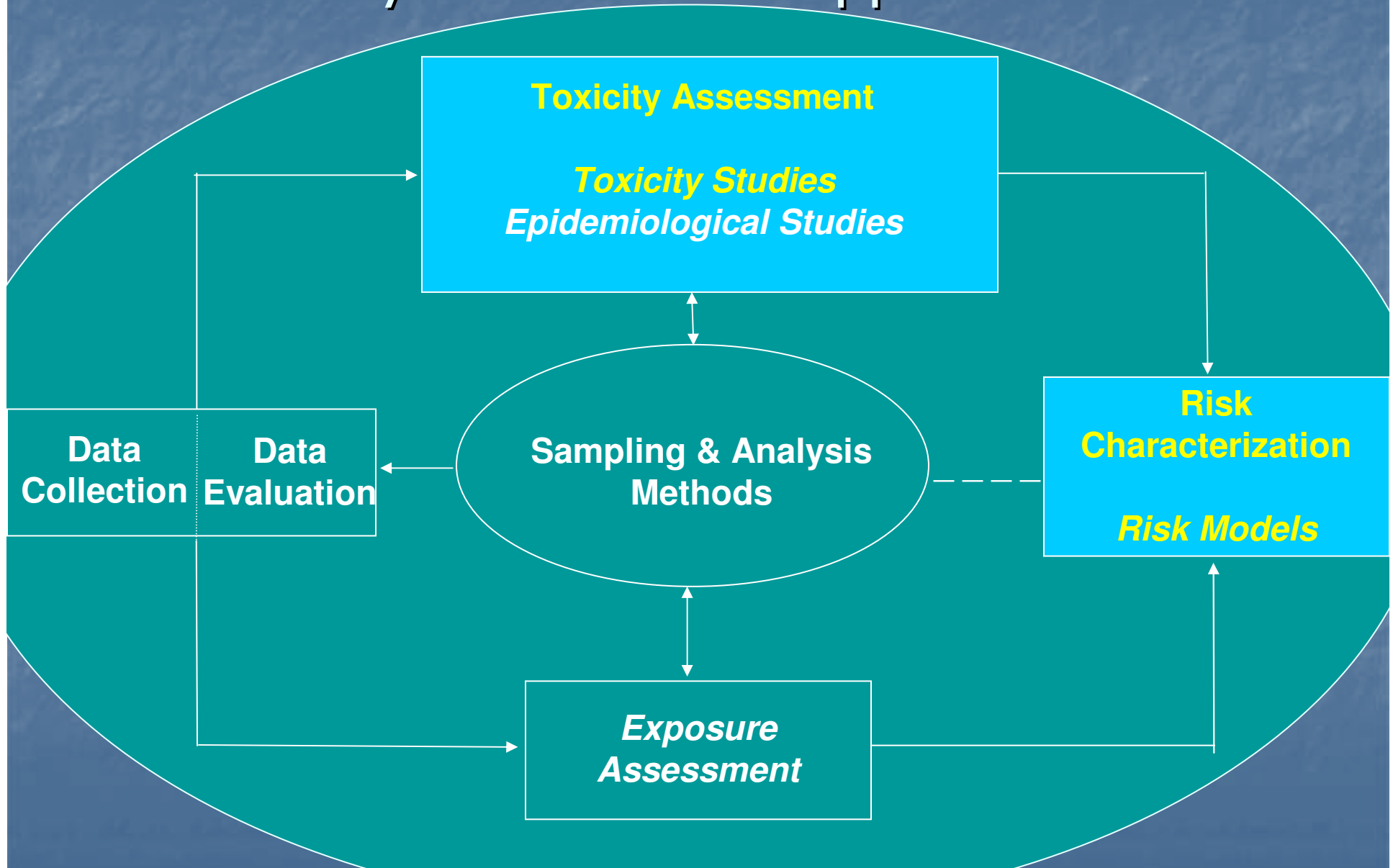
- IRIS cancer slope factor does not specifically consider the increased cancer potency of amphiboles
- Does not account for the toxicity of short, thin fibers
- Considers only exposures specific to occupational settings but does not address
 - Exposures occurring in childhood
 - Shorter duration, episodic exposures

Libby Action Plan Elements



Libby Action Plan

Toxicity Assessment Support Studies



Libby Action Plan

NHEERL Studies

- In Vitro Fiber Dissolution Studies
- Cellular Toxicology Studies
- Comparative Toxicology Studies
- Inhalation Toxicology Studies
- Dosimetry Model and Response Analysis Studies